

REGIONAL WORKSHOP: STRENGTHENING VEHICLE INSPECTION AND MAINTENANCE

7 – 9 NOVEMBER 2001
CHONGQING, CHINA

VEHICLE INSPECTION AND MAINTENANCE IN MALAYSIA

BY
AMI NUDDIN ISHAK
DEPARTMENT OF ENVIRONMENT
MALAYSIA



Department of Environment

1. MOTOR VEHICLE STATISTICS

Number of registered motor vehicles in Malaysia: June 2001
(average growth rate of 9 % per year)

PETROL VEHICLES	9.8 million	90 %
DIESEL VEHICLES	1.1 million	10 %
TOTAL	10.9 million	100 %

Breakdown according to Vehicle Type

Motorcycles	5.5 million	50.5 %
Passenger Cars	4.2 million	38.5 %
Commercial Vehicles	1.2 million	11 %
TOTAL	10.9 million	100 %



2. MOTOR VEHICLE INSPECTION AND MAINTENANCE PROGRAMME

VEHICLE EMISSION INSPECTION

- (i) New vehicles - Type Approval Inspection
- (ii) In-use Vehicles - Periodical Inspection
- Roadside Inspection

2.1 NEW VEHICLE INSPECTION

New vehicles are subjected to “type approval” inspection.

		<u>Passenger Cars</u>
<u>TYPE APPROVAL</u>	Petrol & Diesel	- 91/441/EEC (beginning 1-1-1997)
<u>Emission Standards:</u>	Vehicles	- 94/12/EC (beginning 1-1-2000)
		<u>Commercial Vehicles</u>
		- 93/59/EEC (beginning 1-1-1997)
	Heavy Duty	- EURO 1 (ECE R 49-02)
	Diesel Vehicles	(beginning 1-1-1997)



TYPE APPROVAL INSPECTION

- **Malaysian Government do not have vehicle emission testing facilities**
- **Type Approval is conducted through examining the documentations submitted to DOE by vehicle manufacturers/assemblers on:-**
 - (i) vehicle type approval certificate - issued by internationally recognized emission test lab-e.g. TUV, TNO**
 - (ii) vehicle emission test report - conducted by vehicle manufacturers/recognized test lab**

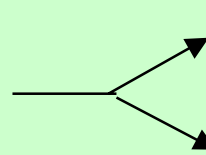
2.2 IN-USE VEHICLES INSPECTION

Conducted through:-

- (i) Periodical Inspection at Inspection Centres (scheduled inspection)**
- (ii) Roadside Inspection (random inspection)**



(i) PERIODICAL INSPECTION



for vehicle safety

for exhaust emission

- **Focus: vehicles with high kilometerage, e.g:**
 - **public service vehicles (busses, taxis)**
 - **goods carrying vehicles (lorries, trucks, vans)**
- **Periodical inspection in Malaysia was started in 1970s and was initially conducted by the Road Transport Department**
- **In 1994, periodical inspection programme was privatized under the Government's Privatization Policy where:**
 - **Government franchises a single independent contractor to:-**
 - (i) build and operate the inspection centres**
 - (ii) charging a set fee for the inspections**
- **Under this policy, the establishment of the inspection centres was awarded to a private company PUSPAKOM**



- **Criteria in Awarding the Establishment of the Inspection Centres**
 - technical competency
 - equipments used (automated and computerised inspection equipments and procedures)
 - proposed inspection fee
- **Currently there are 31 computerised PUSPAKOM Inspection Centres located throughout the country**
- **Inspection Centres are of centralised type - only inspection, no repair works**
- **Inspection Fee**

	<u>Cars, Vans</u>	<u>Trucks/Lorries</u>
Routine Inspection :	RM 40	RM 50 - 60
Reinspection :	RM 15	RM 20 – 30
Exhaust Emission :	RM 15	RM 20 - 30
- **The inspection/testing activities by these private centres is overseen by:-**
 - Road Transport Department - for vehicle safety inspections**
 - Department of Environment - for exhaust emission testing**



- **Periodical Inspection Law:**
Motor Vehicles(Periodic Inspection Equipments and Inspection Standard) Rules 1995
- only commercial vehicles are subjected to this periodical inspection
- **Inspection Frequency :**
 - (i) New vehicles - once annually for the first 2 years,
(after 1995) and thereafter once in every 6 months
 - (ii) Existing (older) vehicles - once in every 6 months
(before 1995)
- **Emission checked:**
 - (i) Diesel Vehicles -black smoke level (by free acceleration method)
Permissible limit/standard: **50 HSU or % opacity**
 - (ii) Petrol Vehicles -CO and HC concentrations (at idle speed)
Permissible limit:

	<u>CO</u>	<u>HC</u>
- new models(after 1-1-1997)	: 3.5 %	600 ppm
- existing models(after 1-1-1997)	: 4.5 %	800 ppm



Periodical Inspection

- Automated reading of measurements
- Computerised “pass-fail” decision

Pass

Fail

Vehicle Inspection
Sticker

Rectification Work
and comeback for Retest

Pass

- commercial vehicles without sticker(disc) - is an offence under the RTA

Renewal of Licence
(road tax) at the RTD Office

- RTD office situated next to inspection centre



Ensuring Quality Services and Meeting the Objective to Reduce Emission From Motor Vehicles

Introduction of “APPROVED TESTING FACILITIES (ATF)” by DOE

- a program to establish inspection centres + workshops approved by DOE

to conduct vehicle exhaust emission tests with the objective:-

i) to provide test centres to assist vehicle owners to send their vehicles for exhaust emission checks and observe their compliance to the law

ii) to enable corrective action be taken immediately to their vehicles to stop emitting excessive smoke and not to pollute the environment

▪ Criteria to become “Approved Testing Facilities”

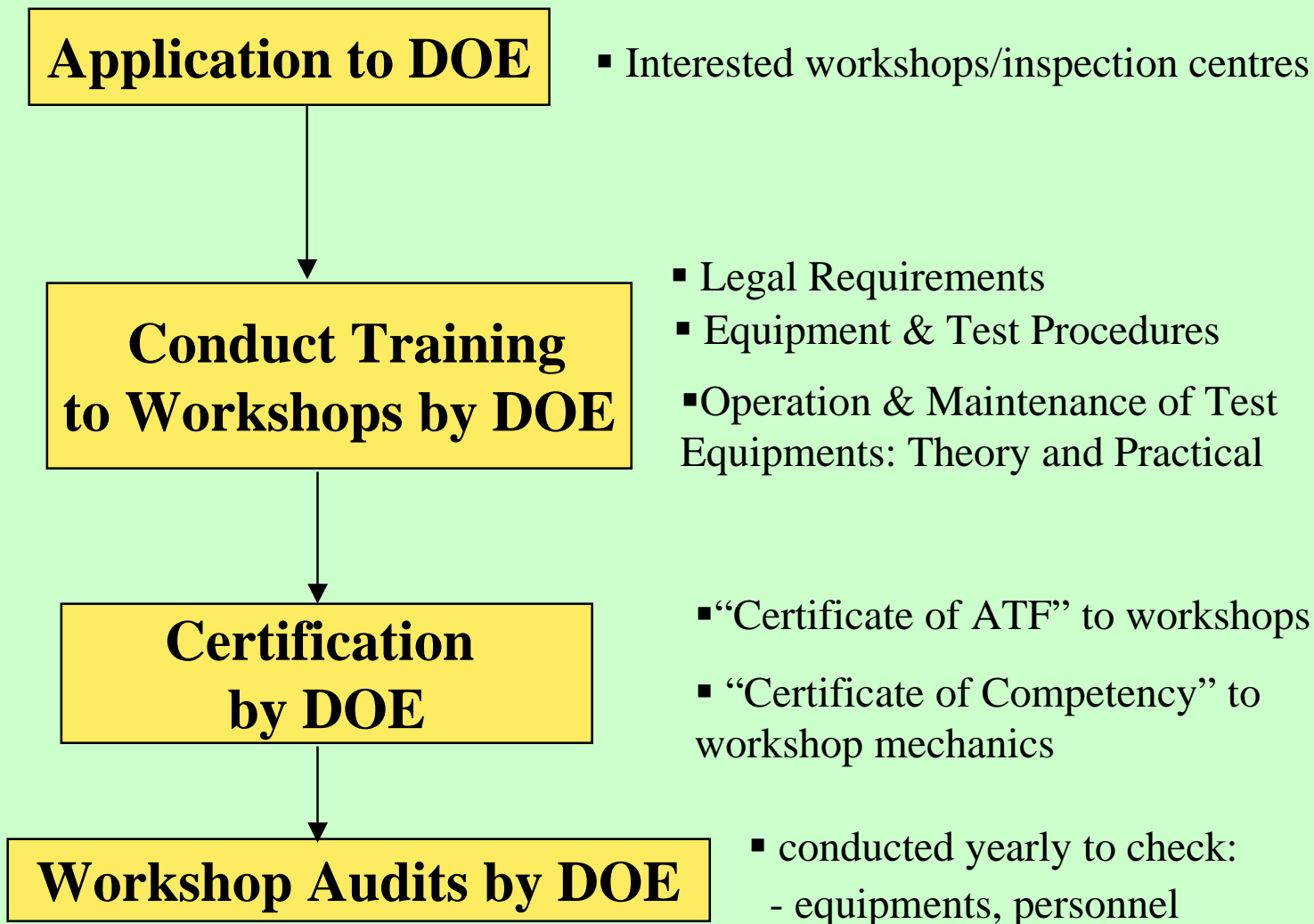
- Facility/workshop should be equipped with:-

(i) smokemeter and/or CO-HC analyzer

(ii) trained personnel (mechanics) → trained by DOE



Flowchart: Establishment of “Approved Testing Facilities”



(ii) ROAD-SIDE INSPECTION (Random “Spot Checks”)

**- to supplement the effectiveness of the periodical inspection,
e.g. discourage tampering to vehicle engines**

- **Beginning 1977 – set up road blocks to check black smoke emission from diesel vehicles exhausts**

- **By 1995 – Introduction of AWASI Program (Area Watch And Sanction Inspection) where:**
 - DOE’s Mobile Squad would be patrolling the streets to conduct visual observation on vehicular emissions**
 - stopping and testing vehicles spotted emitting excessive black smoke using the smokemeter**
 - taking legal actions “on the spot” (includes issuing compounds and also prohibition orders)**



3. PUBLIC EDUCATION AND AWARENESS

- Yearly dialogues between DOE–Vehicle Operators Association (buses, lorries, taxis) on proper and scheduled maintenance of vehicles
- Distributing pamphlets outlining the importance of vehicle maintenance and the health hazards of vehicle pollution
- Providing “free” emission tests to vehicle owners during “Malaysian Environmental Week Celebration” every year in October



4. FUTURE PLAN

- (i) **Extending the periodical inspection to cover all vehicle categories**
 - especially the private cars and motorcycles

- (ii) **Improving the emission test procedures**
 - considering the loaded dynamometer test

- (iii) **Establishing emission testing facilities**

- (iv) **Improving the situation in the service and repair sector to support/ complement the Inspection & Maintenance Program by having:-**
 - increasing the number of skillful mechanics (through training on vehicle maintenance and repair procedures required for emission control)
 - equipments to diagnose vehicle engine malfunctions
 - emission test equipments similar to the inspection centres

